IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-10 (Canceled)

11.(Currently Amended) ~~Optical~~ An optical disc drive ~~(1)~~, comprising:

[[-]] an optical system ~~(30)~~ for scanning an optical disc ~~(2)~~ with a light beam ~~(32)~~, the optical system ~~(30)~~ comprising an optical detector ~~(35)~~ for receiving light ~~(32d)~~ reflected by the optical disc ~~(2)~~;

[[-]] a radial actuator ~~(51)~~ for radially displacing a focal spot ~~(F)~~ of the light beam ~~(32)~~;

[[-]] a control circuit ~~(90)~~ having an input ~~(91)~~ for receiving an output signal ~~(S_R)~~ of said optical detector ~~(35)~~, and

having an output ~~(93)~~ for generating a control signal ~~(S_{CR})~~ for said radial actuator ~~(51)~~;

wherein said control circuit ~~(90)~~ is capable of operating in at least a first operating mode wherein said control signal ~~(S_{CR})~~ for said radial actuator ~~(51)~~ is generated on the basis of a tracking error signal ~~(S3)~~ derived from wobble-induced signal components ~~(W_A, W_B, W_C, W_D)~~ of said optical detector output signal ~~(S_R)~~ using a band-pass filter centred at a wobble frequency.

12. (Currently Amended) ~~Optical~~ The optical disc drive according to claim 11, wherein said control circuit is capable of processing said optical detector output signal ~~(S_R)~~ for calculating a tracking error signal depending on a delay between signal components.

13. (Currently Amended) ~~Optical~~ The optical disc drive according to claim 12, wherein said optical detector ~~(35)~~ is a four-segment detector.

14.(Currently Amended) ~~Optical~~ The optical disc drive according to claim 11, wherein said control circuit ~~(90)~~ is capable of operating in at least a second operating mode wherein said control signal ~~(S_{CR})~~ for said radial actuator ~~(51)~~ is generated on the basis of a tracking error signal ~~(S3)~~ derived from data-induced signal components of said optical detector output signal ~~(S_R)~~.

15.(Currently Amended) ~~Optical~~ The optical disc drive according to claim 14, wherein said control circuit ~~(90)~~ is adapted to monitor said optical detector output signal ~~(S_R)~~, and to operate in said first operating mode when said optical detector output signal ~~(S_R)~~ indicates an unwritten track, and to operate in said second operating mode when said optical detector output signal ~~(S_R)~~ indicates a written track.

16.(Currently Amended) ~~Optical~~ The optical disc drive according to claim 15, wherein said control circuit ~~(90)~~ is adapted to monitor the signal power ~~(171)~~ of low-frequency signal components of said optical detector output signal ~~(S_R)~~, to compare

the measured signal power ~~(171)~~ with a predetermined reference level ~~(174)~~, and to operate in said first operating mode when said measured signal power ~~(171)~~ is above said reference level ~~(174)~~, and to operate in said second operating mode when said measured signal power ~~(171)~~ is below said reference level ~~(174)~~.

17.(Currently Amended) ~~Optical disc drive according to claim 15,~~ An optical disc drive, comprising:

an optical system for scanning an optical disc with a light beam, the optical system comprising an optical detector for receiving light reflected by the optical disc;

a radial actuator for radially displacing a focal spot of the light beam;

a control circuit having an input for receiving an output signal of said optical detector, and having an output for generating a control signal for said radial actuator;

wherein said control circuit is capable of operating in at least a first operating mode wherein said control signal for said radial actuator is generated on the basis of a tracking error

signal derived from wobble-induced signal components of said optical detector output signal;

wherein said control circuit is capable of operating in at least a second operating mode wherein said control signal for said radial actuator is generated on the basis of a tracking error signal derived from data-induced signal components of said optical detector output signal;

wherein said control circuit is adapted to monitor said optical detector output signal, and to operate in said first operating mode when said optical detector output signal indicates an unwritten track, and to operate in said second operating mode when said optical detector output signal indicates a written track; and

wherein said control circuit ~~(90)~~ is adapted to monitor the signal power ~~(171)~~ of low-frequency signal components of said optical detector output signal ~~(S_R)~~, and to switch to said first operating mode when said measured signal power ~~(171)~~ shows an increase by more than a predetermined amount, for instance when the time-derivative ~~(176)~~ of said measured signal power ~~(171)~~ exceeds a

predetermined positive reference level ~~(178)~~, and to operate in said second operating mode when said measured signal power ~~(171)~~ shows a drop by more than a predetermined amount, for instance when the time-derivative ~~(176)~~ of said measured signal power ~~(171)~~ exceeds a predetermined negative reference level ~~(177)~~.

18.(Currently Amended) ~~Optical~~ The optical disc drive according to claim 15, wherein said control circuit ~~(90)~~ is adapted to monitor the signal power ~~(173)~~ of data-frequency signal components of said optical detector output signal ~~(S_R)~~, to compare the measured signal power ~~(173)~~ with a predetermined reference level ~~(175)~~, and to operate in said first operating mode when said measured signal power ~~(173)~~ is below said reference level ~~(175)~~, and to operate in said second operating mode when said measured signal power ~~(173)~~ is above said reference level ~~(175)~~.

19.(Currently Amended) ~~Optical disc drive according to claim 18,~~ An optical disc drive, comprising:

an optical system for scanning an optical disc with a light

beam, the optical system comprising an optical detector for receiving light reflected by the optical disc;

a radial actuator for radially displacing a focal spot of the light beam;

a control circuit having an input for receiving an output signal of said optical detector, and having an output for generating a control signal for said radial actuator;

wherein said control circuit is capable of operating in at least a first operating mode wherein said control signal for said radial actuator is generated on the basis of a tracking error signal derived from wobble-induced signal components of said optical detector output signal;

wherein said control circuit is capable of operating in at least a second operating mode wherein said control signal for said radial actuator is generated on the basis of a tracking error signal derived from data-induced signal components of said optical detector output signal;

wherein said control circuit is adapted to monitor said optical detector output signal, and to operate in said first operating mode when said optical detector output signal indicates

an unwritten track, and to operate in said second operating mode when said optical detector output signal indicates a written track;

wherein said control circuit is adapted to monitor the signal power of data-frequency signal components of said optical detector output signal, to compare the measured signal power with a predetermined reference level, and to operate in said first operating mode when said measured signal power is below said reference level, and to operate in said second operating mode when said measured signal power is above said reference level; and

wherein said control circuit ~~(90)~~ is adapted to monitor the signal power ~~(173)~~ of data-frequency signal components of said optical detector output signal ~~(S_R)~~, and to switch to said first operating mode when said measured signal power ~~(173)~~ shows a drop by more than a predetermined amount, for instance when the time-derivative of said measured signal power ~~(173)~~ exceeds a predetermined negative reference level, and to operate in said second operating mode when said measured signal power ~~(173)~~ shows an increase by more than a predetermined amount, for instance when

the time-derivative of said measured signal power ~~(173)~~ exceeds a predetermined positive reference level ~~(177)~~.

20. (Currently Amended) ~~Optical~~ The optical disc drive according to claim 14, wherein said control circuit ~~(290)~~ has a first signal processing path ~~(310a-d, 320, 330, 340)~~ for processing said optical detector output signal ~~(S_R)~~ in said first operative mode, wherein said control circuit ~~(90)~~ has a second signal processing path ~~(410a-d, 420, 430, 440)~~ for processing said optical detector output signal ~~(S_R)~~ in said second operative mode, and a controllable switch ~~(299)~~ for selecting either said first signal processing path or said second signal processing path.

21. (Currently Amended) ~~Optical~~ The optical disc drive according to claim 14, wherein said control circuit ~~(90)~~ comprises an input filter assembly ~~(110A-D)~~ having a controllable filter characteristic.

22.(Currently Amended) ~~Optical~~ The optical disc drive according to claim 21, wherein said input filter assembly ~~(110A-D)~~ comprises at least one controllable filter device ~~(110A)~~ having a signal input ~~(111a)~~ coupled to a optical detector input ~~(91a)~~ of the control circuit ~~(90)~~, having a signal output ~~(112a)~~, and having a control input ~~(113a)~~, the controllable filter device ~~(110A)~~ being designed to pass signal components in a low-frequency range and to block signal components in a data-frequency range in response to a control signal ~~(S_{FC})~~ received at its control input ~~(113a)~~ having a first value, the controllable filter device ~~(110A)~~ being designed to block signal components in said low-frequency range and to pass signal components in said data-frequency range in response to said control signal ~~(S_{FC})~~ received at its control input ~~(113a)~~ having a second value.

23.(Currently Amended) ~~Optical disc drive according to claim 22,~~ An optical disc drive, comprising:

an optical system for scanning an optical disc with a light beam, the optical system comprising an optical detector for receiving light reflected by the optical disc;

a radial actuator for radially displacing a focal spot of the light beam;

a control circuit having an input for receiving an output signal of said optical detector, and having an output for generating a control signal for said radial actuator;

wherein said control circuit is capable of operating in at least a first operating mode wherein said control signal for said radial actuator is generated on the basis of a tracking error signal derived from wobble-induced signal components of said optical detector output signal;

wherein said control circuit is capable of operating in at least a second operating mode wherein said control signal for said radial actuator is generated on the basis of a tracking error signal derived from data-induced signal components of said optical detector output signal;

wherein said control circuit comprises an input filter assembly having a controllable filter characteristic;

wherein said input filter assembly comprises at least one controllable filter device having a signal input coupled to a optical detector input of the control circuit, having a signal output, and having a control input, the controllable filter device being designed to pass signal components in a low-frequency range and to block signal components in a data-frequency range in response to a control signal received at its control input having a first value, the controllable filter device being designed to block signal components in said low-frequency range and to pass signal components in said data-frequency range in response to said control signal received at its control input having a second value;

wherein said controllable filter device ~~(110)~~ comprises:

[[-]] a first filter ~~(115)~~ having a filter characteristic passing signal components in said low-frequency range and blocking signal components in said data-frequency range, said first filter ~~(115)~~ having a filter signal input ~~(115a)~~ coupled to the input ~~(111)~~ of said filter device ~~(110)~~;

[[-]] a second filter ~~(116)~~ having a filter characteristic blocking signal components in said low-frequency range and passing signal components in said data-frequency range, said second filter

~~(116)~~ having a filter signal input ~~(116a)~~ coupled to the input ~~(111)~~ of said filter device ~~(110)~~;

[[-]] a controllable switch ~~(117)~~ having signal inputs ~~(117a, 117b)~~ coupled to filter signal outputs ~~(115b, 116b)~~, respectively, having a signal output ~~(117c)~~ coupled to the output ~~(112)~~ of said filter device ~~(110)~~, and having a control input ~~(117d)~~ coupled to the control input ~~(113)~~ of said filter device ~~(110)~~;

wherein said controllable switch ~~(117)~~ is adapted to couple its output ~~(117c)~~ to one of its inputs ~~(117a, 117b)~~ in response to a control signal received at its control input ~~(117d)~~.

24.(Currently Amended) ~~Optical disc drive according to claim 21, further comprising:~~ An optical disc drive, comprising:

an optical system for scanning an optical disc with a light beam, the optical system comprising an optical detector for receiving light reflected by the optical disc;

a radial actuator for radially displacing a focal spot of the light beam;

a control circuit having an input for receiving an output signal of said optical detector, and having an output for generating a control signal for said radial actuator;

wherein said control circuit is capable of operating in at least a first operating mode wherein said control signal for said radial actuator is generated on the basis of a tracking error signal derived from wobble-induced signal components of said optical detector output signal;

wherein said control circuit is capable of operating in at least a second operating mode wherein said control signal for said radial actuator is generated on the basis of a tracking error signal derived from data-induced signal components of said optical detector output signal;

wherein said control circuit comprises an input filter assembly having a controllable filter characteristic;

wherein said input filter assembly comprises at least one controllable filter device having a signal input coupled to a optical detector input of the control circuit, having a signal output, and having a control input, the controllable filter device being designed to pass signal components in a low-frequency range

and to block signal components in a data-frequency range in response to a control signal received at its control input having a first value, the controllable filter device being designed to block signal components in said low-frequency range and to pass signal components in said data-frequency range in response to said control signal received at its control input having a second value;

the optical disc drive further comprising a first delay calculator ~~(120)~~ having:

[[-]] a first input ~~(121)~~ coupled to the output ~~(112a)~~ of a first controllable filter device ~~(110A)~~ having its signal input ~~(111a)~~ coupled to a first optical detector input ~~(91a)~~ of the control circuit ~~(90)~~ for receiving the filtered optical output signal ~~(A)~~ corresponding to the amount of light received at a first detector quadrant ~~(35a)~~;

[[-]] a second input ~~(122)~~ coupled to the output ~~(112d)~~ of a fourth controllable filter device ~~(110D)~~ having its signal input ~~(111d)~~ coupled to a fourth optical detector input ~~(91d)~~ of the control circuit ~~(90)~~ for receiving the filtered optical output signal ~~(D)~~ corresponding to the amount of light received at a fourth detector quadrant ~~(35d)~~;

[[-]] a second delay calculator ~~(130)~~ having:

[[-]] a first input ~~(131)~~ coupled to the output ~~(112c)~~ of a third controllable filter device ~~(110C)~~ having its signal input ~~(111c)~~ coupled to a third optical detector input ~~(91c)~~ of the control circuit ~~(90)~~ for receiving the filtered optical output signal ~~(C)~~ corresponding to the amount of light received at a third detector quadrant ~~(35c)~~;

[[-]] a second input ~~(132)~~ coupled to the output ~~(112b)~~ of a second controllable filter device ~~(110B)~~ having its signal input ~~(111b)~~ coupled to a second optical detector input ~~(91b)~~ of the control circuit ~~(90)~~ for receiving the filtered optical output signal ~~(B)~~ corresponding to the amount of light received at a second detector quadrant ~~(35b)~~;

[[-]] the delay calculators ~~(120, 130)~~ each being designed to generate an output signal ~~(S1, S2)~~ representing the time difference or phase difference of signals received at their inputs;

[[-]] the control circuit ~~(90)~~ further comprising an adder ~~(140)~~ comprising two inputs ~~(141, 142)~~ coupled to outputs ~~(123, 133)~~ of said delay calculators ~~(120, 130)~~, respectively, and an output ~~(143)~~ providing the summation of said two input signals as

tracking error signal ~~(S3)~~.